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09/013,541	01/26/1998	JOHAN P.M.G. LINNARTZ	PHN16210	3468

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EXAMINER

DAVIS, ZACHARY A

ART UNIT PAPER NUMBER

2137

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/013,541

Applicant(s)

LINNARTZ, JOHAN P.M.G.

Examiner

Zachary A. Davis

Art Unit

2137

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 35,38,43-47,49-52,54,56 and 57 is/are allowed.
6) ☒ Claim(s) 1-34,36,37,39-42,48 and 55 is/are rejected.
7) ☒ Claim(s) 53 and 58-68 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. An amendment was received on 18 March 2005. Claims 1, 5, 9, 11, 22, 25, 26, 30, 32, 41, 48, 53, and 55 have been amended. New Claims 58-68 have been added. No claims have been canceled. Claims 1-68 are currently pending in the present application. Claims 35, 38, 43-47, 49-52, 54, 56, and 57 were allowed in the previous Office action.

Response to Arguments

2. Applicant's arguments filed 18 March 2005 have been fully considered but they are not persuasive.

In reference to the rejection of Claims 9, 10, 16, 30, 31, 48, and 55 under 35 U.S.C. 101 as being directed to non-statutory subject matter, Applicant argues that the claims as amended now recite statutory subject matter. The Examiner respectfully disagrees. Applicant points out that the relevant claims have been amended "to define subject matter wherein the second bitpattern is different from the first bitpattern" (page 18 of the present response). The Examiner fails to appreciate this argument, as it is unclear how a difference in the bit patterns is relevant to whether the claim language conforms to the definition of a data structure cited in the MPEP and quoted by Applicant. Applicant also argues that the relevant claims have also been amended to recite that the bit patterns are "contained within the medium mark and the watermark"

Art Unit: 2137

as opposed to merely “represented” therein. However, the Examiner notes that on an “information carrier” as claimed by Applicant, a pattern of bits must necessarily be somehow “represented”; unless the information carrier is a piece of paper with ones and zeros actually written thereupon, bits stored in, for example, an electronic, magnetic, or optical medium must be encoded and therefore “represented”. Therefore, in this context, the Examiner believes that there is not a significant distinction between data being “contained” or “represented”.

Further in reference to the rejection under 35 U.S.C. 101, Applicant argues that the recited claim limitations do conform to the definition of a data structure as provided in MPEP § 2106 IV. B. 1. More specifically, Applicant argues that “There is clearly at least a logical relationship between the first and second bitpatterns” (page 19 of the present response). However, Applicant appears to support this assertion only with the fact that the second bit pattern is different from the first bit pattern and further has a predefined relationship with the first bit pattern. As stated in the previous Office action, although there is a predefined relationship between the first and second bit patterns, changing one of the stored bit patterns does not affect the other stored bit pattern. This therefore does not define a physical or logical relationship between the elements that is designed to support specific data manipulation functions. Applicant’s highlighting of the fact that the second bit pattern is different from the first bit pattern appears to be irrelevant to the question of whether there is a logical or physical relationship between the bit patterns as defined in the MPEP. Applicant also argues that “The first and second bitpatterns clearly support specific data manipulation” (page 19 of the present

response); however, Applicant has provided no evidence to support such a statement. Applicant further argues that it is sufficient for a data structure or computer program to impart functionality, and that any data structure is capable of imparting functionality; however, as detailed above, the Examiner believes that Applicant's claims do not recite a data structure.

Claims 1-34, 36, 37, and 39-42 were rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al, US Patent 5761301, in view of Moskowitz, US Patent 6205249, and Bahns et al, US Patent 5607188. Regarding this rejection, Applicant argues that the digital signature of Oshima does not have any relationship with a bit pattern. However, Applicant also states that the digital signature of Oshima is enciphered positional information relating to a medium mark. Therefore, the Examiner believes that the digital signature of Oshima does indeed have a relationship with a bit pattern, namely the positional information relating to the medium mark.

Applicant further argues that the watermark of Bahns cannot be considered to contain computer readable data. However, the Examiner believes, as stated in the previous Office action, that Bahns teaches that the identifying watermark information may or may not be readable when reading the data of the disc (column 4, lines 51-55, where the mark may be applied in a data-carrying region of the disc). Even assuming, as Applicant asserts, that the watermark taught by Bahns is formed on the land areas of the disc, Bahns discloses that the watermark may be a visual mark (see Abstract, for example); the Examiner notes that it is well known that visual data is readable by computer (for example, a bar code, or other information read by a scanner), and

Art Unit: 2137

therefore this visual mark could be computer readable data. Further, it is noted that Applicant contends that Bahns, column 4, lines 51-55 states that the photoresist should interfere with the laser readout interpretation of pits and lands. In fact, Bahns, column 4, lines 49-51, specifically states the exact opposite, namely that the reduction of the photoresist should *not* interfere with the readout interpretations.

Applicant alleges that a combination of Bahns and Oshima would not result in the medium mark as claimed, and suggests two possible (and opposing) interpretations of what would result from such a combination; however, it appears that this is merely conjecture on Applicant's part. The Examiner believes that Bahns teaches the *concept* of using a mark within the medium to provide identification and authentication of the medium (see Abstract, for example), and armed with the knowledge of this concept and the medium mark as taught by Oshima, it would be obvious to one of ordinary skill in the art to include some form of the identifying and authenticating mark, as taught by Bahns, within the medium mark of Oshima.

Applicant additionally argues that Moskowitz does not disclose or suggest a first bit pattern employed for a medium mark and a second bit pattern employed for a watermark, with the bit patterns having a predefined relationship. However, Moskowitz was not relied upon to teach the use of a bit pattern as a medium mark; Moskowitz instead was relied upon for its suggestion as incorporating a digital signature as a part of a watermark (see column 6, lines 46-57) because Oshima already disclosed the use of a medium mark having a relationship with a digital signature (see rejection below).

Applicant also points out that the independent claims have been amended, to recite the limitation of a watermark "containing" a bit pattern, as opposed to "representing" a bit pattern. However, in the context of the present application, there does not appear to be a significant distinction between the terms, as addressed above in reference to the rejections under 35 U.S.C. 101.

Therefore, for the reasons detailed above, the Examiner maintains the rejections as set forth below.

Claim Objections

3. Claims 42 and 66 are objected to because of the following informalities: The claims each recite the limitation "The player of claim 41"; however, Claim 41 is directed to a recorder. Appropriate correction is required.

4. Claim 53 was objected to as being a substantial duplicate of Claim 52. Although Applicant has amended Claim 53, it does not appear that the objection has been overcome. Specifically, it does not appear that there is a substantial distinction between the limitation "a cryptographic key for de-scrambling recorded information" and "a key for de-scrambling recorded information"; a key used for de-scrambling is by definition a cryptographic key.

Claim Rejections - 35 USC § 112

5. The rejection of Claim 25 under 35 U.S.C. 112, second paragraph, is withdrawn in light of the amendments to the claim.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 9, 10, 16, 30, 31, 48, and 55 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to an information carrier including a medium mark and other recorded information, which is non-functional descriptive material, because there is no functional interrelationship between the stored data and the information carrier itself, nor is there an interrelationship between the stored data and any other aspect of the claimed invention.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2137

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-34, 36, 37, and 39-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al, US Patent 5761301, in view of Moskowitz, US Patent 6205249, and Bahns et al, US Patent 5607188.

In their abstract, Oshima et al. disclose a medium mark on an optical disc. See pad 819b of figure 1 for reading a medium mark from the record carrier. The position information is sent to an encryptor that creates a digital signature of the position information, as described in the abstract. The digital signature reads on applicant's second bitpattern. Figure 18 shows the entire process of forming the digital signature and then verifying it.

Oshima et al. do not say that the digital signature is embedded as a watermark in user information or that applicant's first bitpattern is stored as contents of the medium mark. In lines 44-57 of column 6, Moskowitz presents embedding digital signatures into content as watermarks. Content is user information in that it is used by the user. This embedding provides non-repudiation and validation. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to embed the signatures described in Oshima et al. as watermarks into the user information in order to assure non-repudiation and validity.

In their abstract, Bahns et al. teach watermarking an optical disc with a name, logo, design, picture, or other pattern that is applied within the structure of a disc. Figure 1 shows an example, with element 20 serving as a watermark for disc 10. This

watermark, which is different than the digital watermarks disclosed by Moskowitz, identifies as well as authenticates the disc. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Bahns et al's watermark as the medium mark in Oshima et al. so that the medium mark not only authenticates but also identifies the medium.

Figure 18 of Oshima et al. anticipates the limitations specific to claims 2 and 3. Claim 4 is obvious because signing keys are (supposed to be) unique to devices and the software maker is disclosed as including both the embedding apparatus and the signature generator. Claim 5 contains limitations already discussed in claim 1. Element 819a of Oshima et al.'s first figure meets the first clause of claim 6. Data used to interpret the mark into the first bitpattern reads on applicant's seed and thus the second clause of claim 6 and claim 7.

Moskowitz and Oshima et al. have both taught the benefit of creating digital signatures as a way to secure information. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a cryptographic one-way function to create the first bitpattern, thereby meeting the limitations of claim 8.

The output disc of Oshima et al., when modified by the teachings of Moskowitz, contains the elements of claim 9. Claim 10 is obvious in view of Moskowitz's teaching of a digital signature being used to verify data. As such, it would be obvious to identify the content being watermarked. Claim 11 is covered by the above discussion of claim 1 and figure 18 in Oshima et al. Figure 18 also foresees claim 12. Claim 13 is covered

Art Unit: 2137

by Moskowitz's discussion of secure hash functions. The limitations of claim 14 are rendered obvious by Moskowitz's discussion of digital signatures.

With respect to claim 15, the recorder has already been shown to possess means for reading the first bit pattern from the record carrier. The presence of this bitpattern in itself indicates a copy protection status that the content is copy protected. The rest of the elements of claim 15 have been discussed above. The content of claims 16 and 17 has already been discussed. Claim 18 is rendered obvious by the abstract of Bahns et al., which teaches watermarking the optical disc at production. This feature also meets the limitations of claim 19. The "OK?" with two exiting paths in figure 18 of Oshima et al. anticipates a switch and thus claims 20 and 21. Claims 22-34 consist of limitations that have been treated by claims 1-13, respectively. Claim 36 is obvious for the same reasons as the last two clauses of claim 1. Regarding Claim 37, Oshima et al. teach that watermarked information (information combined with a digital signature) is encrypted before being recorded, at lines 38-47 of column 3. Art applied to the second clause of claim 1 shows the limitations of claim 39. Oshima et al. render obvious claim 40. The elements of claims 41 and 42 are obvious for the same reasons as those of claims 11 and 15.

Allowable Subject Matter

10. Claims 66-68 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

A statement of reasons for the indication of allowable subject matter with respect to Claim 35 appears in a previous Office action dated 24 March 2004. Claims 66-68 are directed to similar subject matter.

11. Claims 53 and 58-65 are objected to under 37 CFR 1.75 as being substantial duplicates of claims 52, 43, 45, 47, 49, 35, 51, 54, and 56, respectively. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 2137

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary A. Davis whose telephone number is (571) 272-3870. The examiner can normally be reached on weekdays 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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